

## ABSTRACT OF THE DISCLOSURE

The present invention is directed to a high performance broadband ATM switching system comprised of concentrator, non-recirculating sort-trap and queuing stages. The concentrator stage concentrates cells entering the switch by discarding idle inputs thereto. Cells arriving at the non-recirculating sort-trap stage during a time slot are sorted based upon destination address and priority. Cells having a unique address for the time slot are placed in a corresponding output queue while cells having non-unique destination addresses are re-routed to a trap buffer which ages the cell until a subsequent time slot in which the destination address is unique.